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UK Patent Application GB 2 294 821 A

(43) Date of A Publication 08.05.1996

(21) Application No 9422263.5

(22) Date of Filing 04.11.1994

(71) Applicant(s)

GEC Alsthom Limited

(Incorporated in the United Kingdom)

PO Box 70, Mill Road, RUGBY, Warwickshire,
CV21 1TB, United Kingdom

(72) Inventor(s)

John Desmond Ainsworth

David Reginald Trainer

Philip John Fitz

(74) Agent and/or Address for Service

Henry Anthony Branfield

GEC Patent Department, Waterhouse Lane,
CHELMSFORD, Essex, CM1 2QX, United Kingdom

(51) INT CL⁶

H02J 3/18

(52) UK CL (Edition O)

H2F F14

G3U UEG U209 U210 U212

H2H HAB H23G H25G

(56) Documents Cited

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(58) Field of Search

UK CL (Edition N) G3U UEG , H2F FMAS FMAT FMAX

F14 , H2H HAB

INT CL⁶ G05F 1/70 , H02J 3/16 3/18 , H02M 1/00

Online : wpi

(54) Multilevel converter

(57) A multilevel convertor 30 for connection in shunt or in series with each phase of a single or multi-phase AC system is configured as a chain comprising a plurality of links, each of which comprises a voltage-commutated convertor providing a multilevel AC voltage, and a main control arrangement for controlling a switching sequence of the voltage-commutated convertor such as to provide a total voltage across the ends of the chain which is an aggregate of the individual multilevel voltages of the voltage-commutated convertors. Each voltage-commutated convertor may consist of a bridge and a DC source or sink. The DC source or sink may be either a capacitor, a battery or a DC-AC or AC-DC convertor. The multilevel convertor may also include voltage-balancing means to maintain desired absolute or relative voltage levels on the DC sources or sinks within the chain. The convertor may include GTO or IGBT devices and various circuits are described (Figs. 7 - 15). The control arrangement to regulate the convertor is described (Figs. 17 - 22). A capacitor clamping arrangement (Figs. 23 - 25) may be provided.

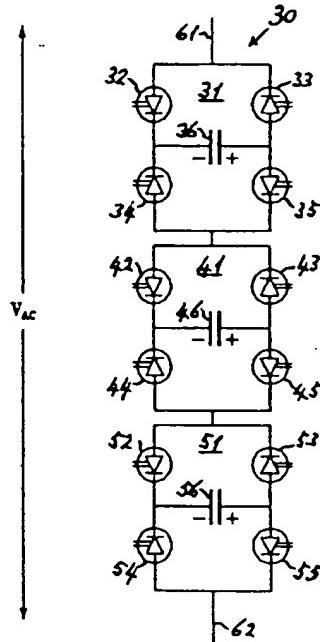


Figure 3

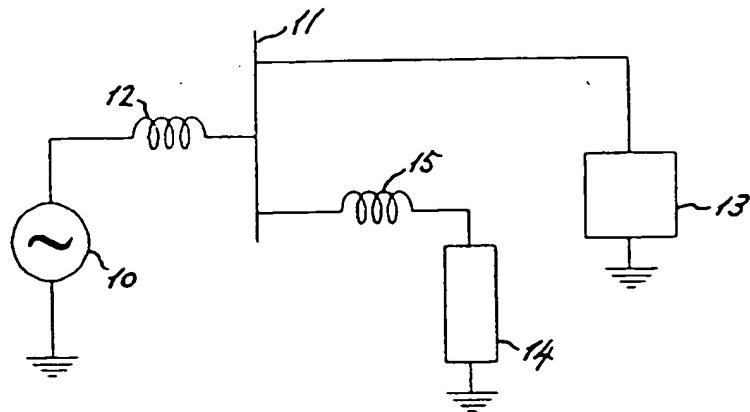


Figure 1

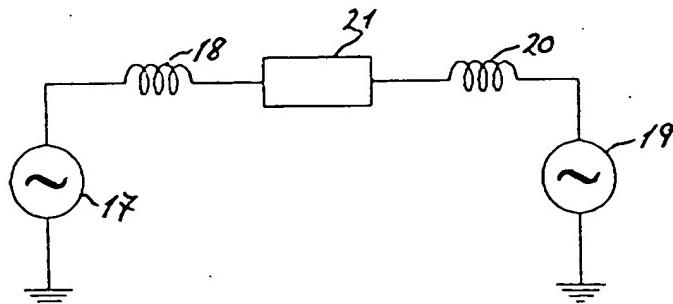


Figure 2

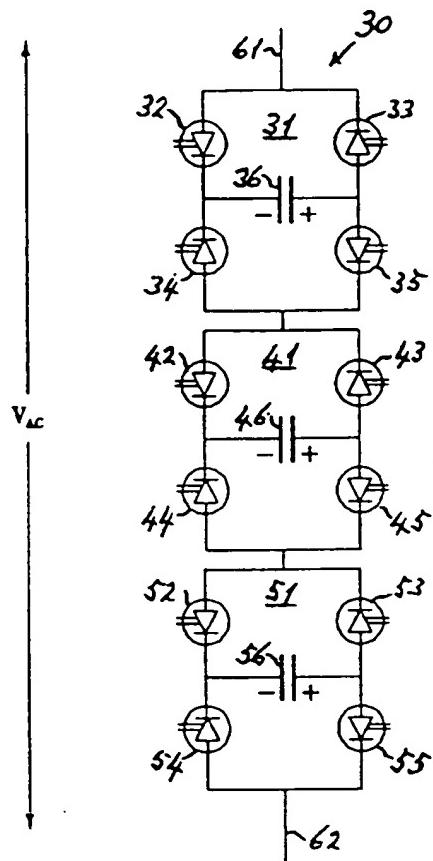


Figure 3

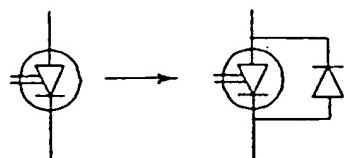


Figure 4

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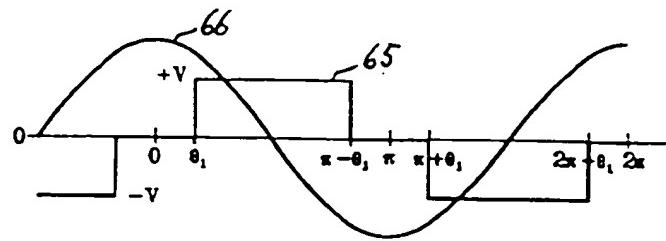


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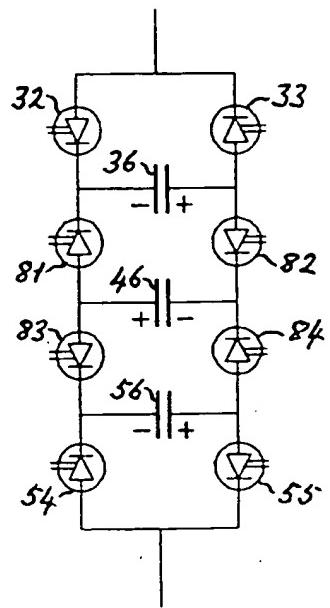


Figure 7

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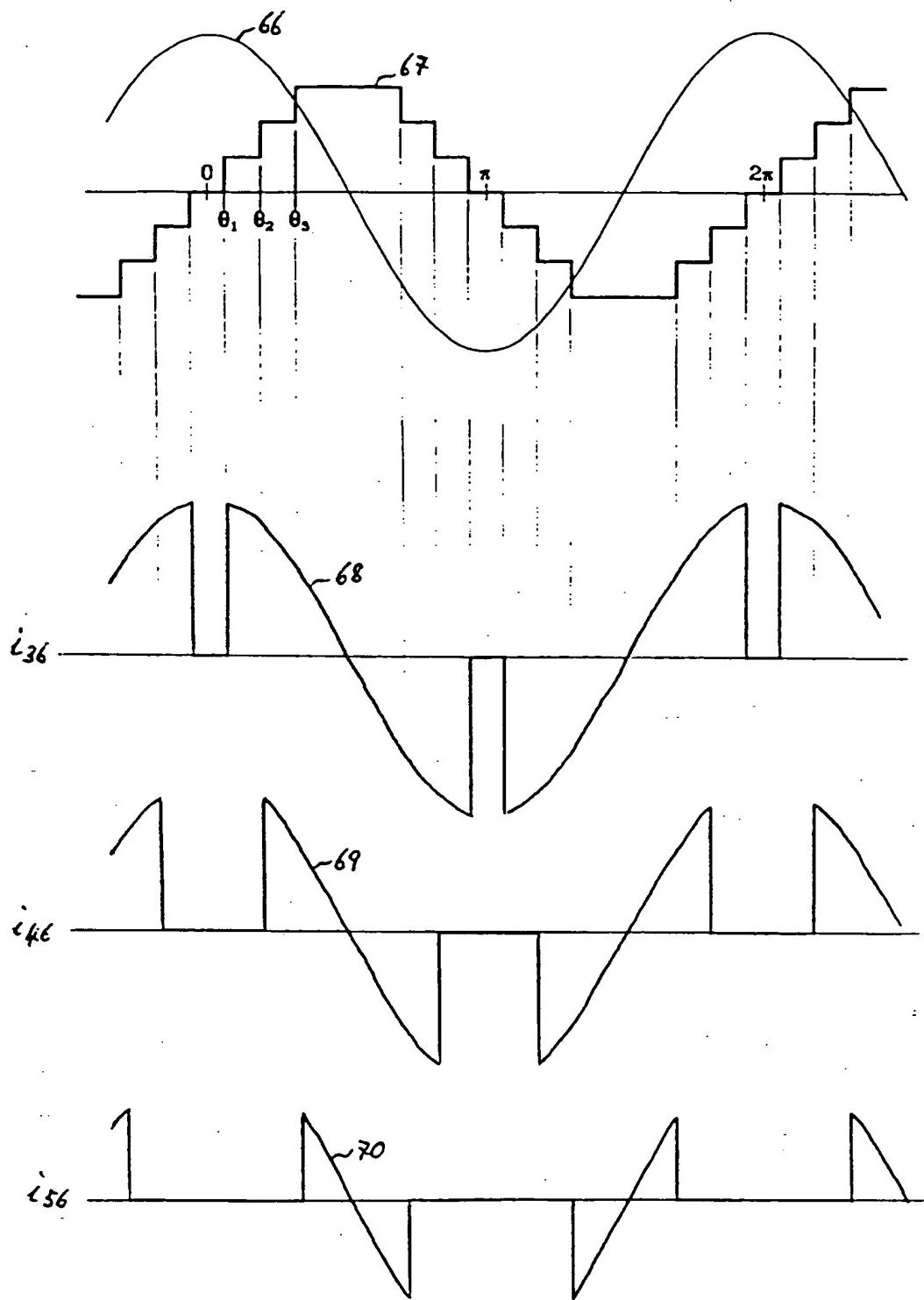


Figure 6

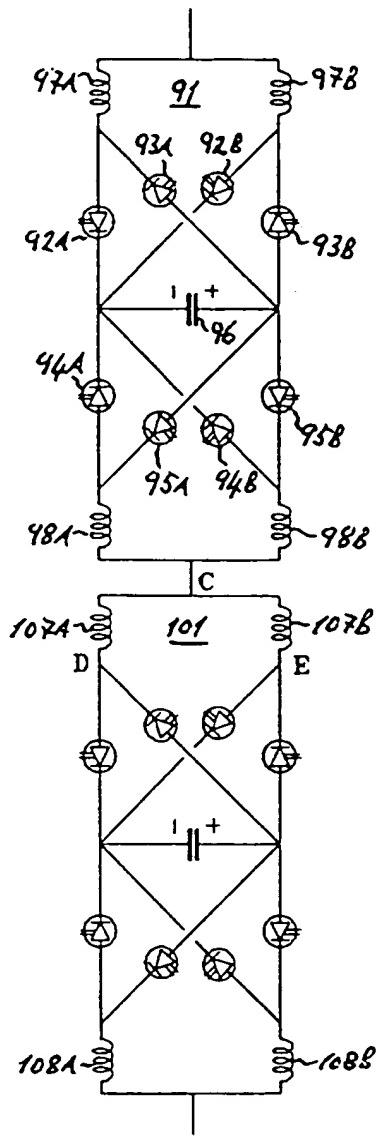


Figure 8

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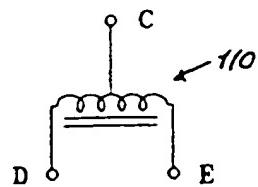


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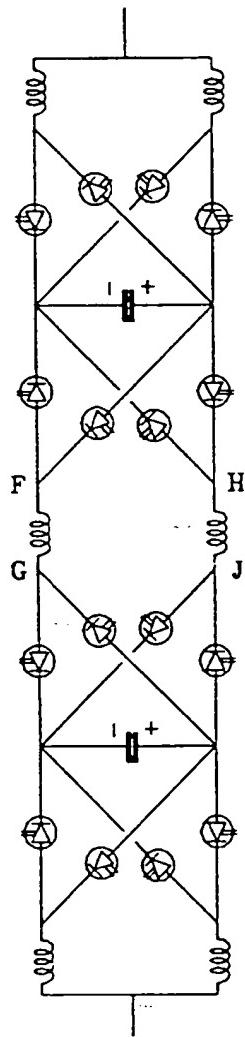


Figure 10

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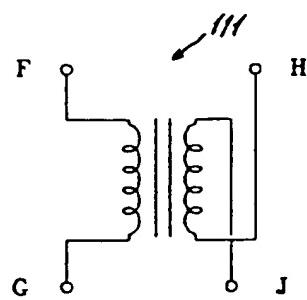


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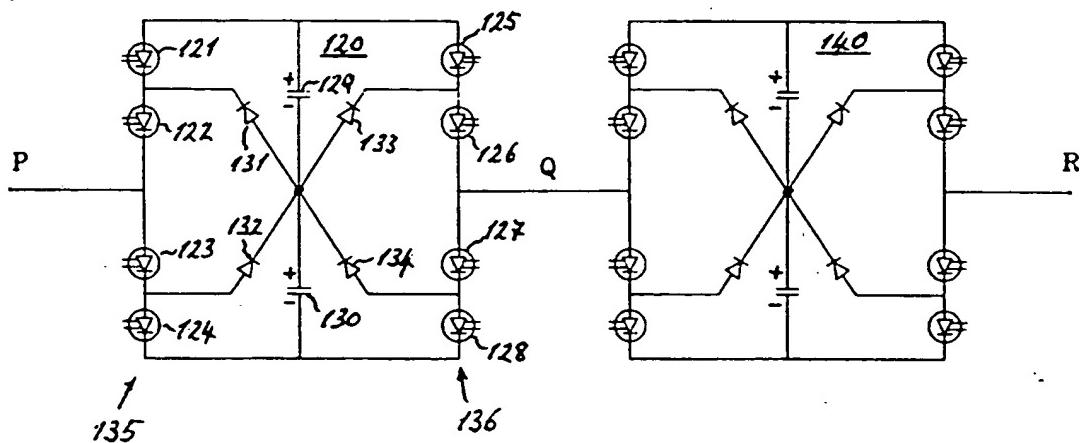


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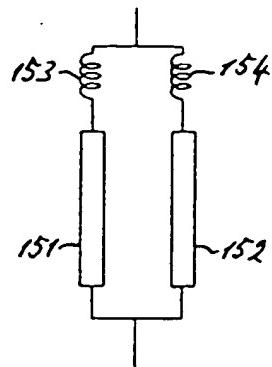


Figure 13

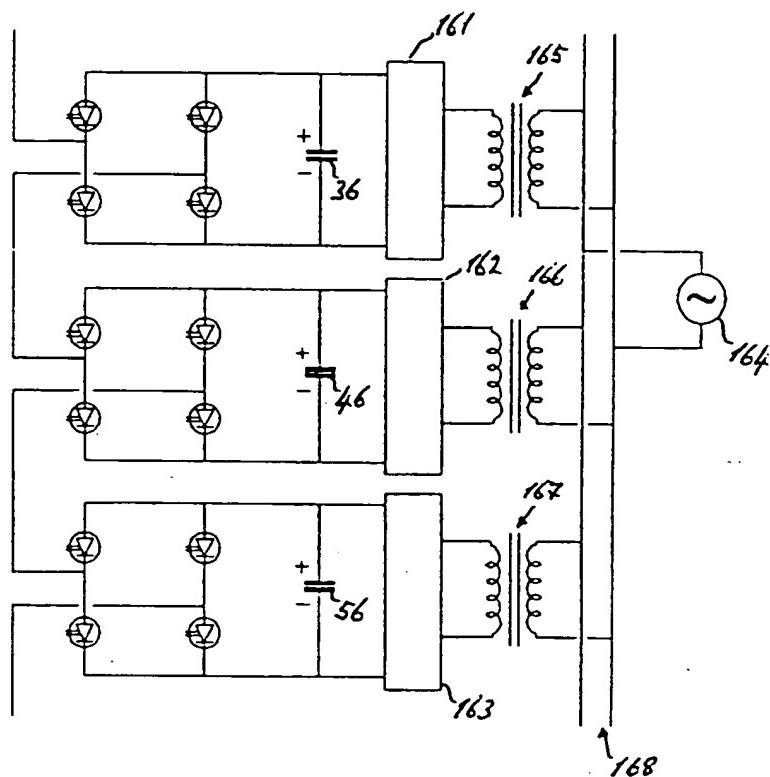


Figure 14

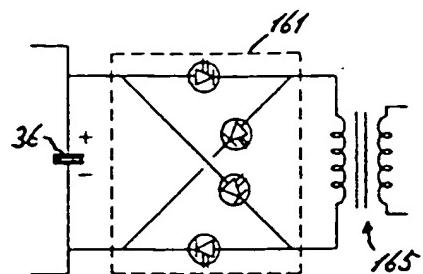


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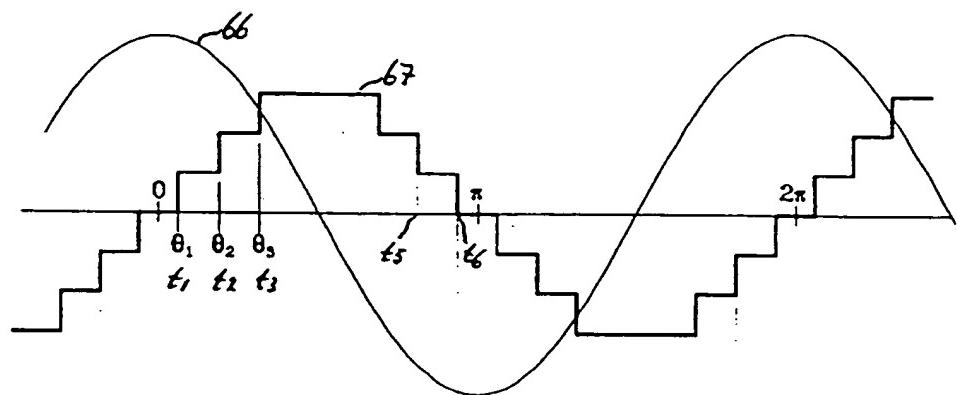


Figure 6

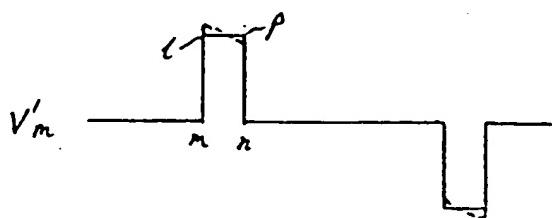
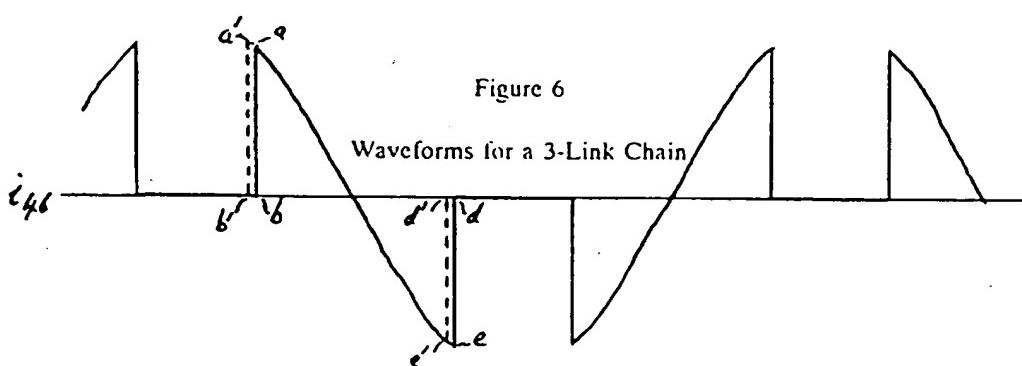


Figure 16